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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
JACOBSON, MICHELE LYNN	
ART UNIT	PAPER NUMBER
1794	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/570,930	AUF DER HEIDE ET AL.	
	Examiner	Art Unit	
	MICHELE JACOBSON	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/8/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation "the inside of the casing having a surface tension of greater than 28 dyn/cm^{2}". This recitation is indefinite because the property of surface tension is a property of liquids, not solids such as casings. As described in "Principles of Colloid and Surface Chemistry" on page 249 "surface tension is a property of the interface between two phases" and "two phases must be specified to describe surface tension". Surface tension is an intrinsic property of liquid surfaces, not solids. Claim 1 does not provide any indication of which two surfaces the surface tension recited to be measured for and the specification provides no guidance as to how one would measure the surface tension of the casing recited. Furthermore, surface tension is not described or specifically defined in the specification. As such, it is impossible to determine what scope the limitations set forth in claim 1 are intended to encompass.

Claim Rejections - 35 USC § 112/101

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 11 provides for the use of the casing recited in claim 1, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 11 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

6. Claim 12 is rejected under 35 U.S.C. 112, second paragraph and 35 U.S.C. 101 because it is dependent from rejected claim 11.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 2, 4-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krallman et al. U.S. Patent Application Publication No. 2003/0059502 (hereafter referred to as Krallman) and Stenger et al. U.S. Patent No. 5,399,427 (hereafter referred to as Stenger).

9. Krallman teaches a smoke-impregnated at least three-layer tubular film with a polyamide inner and outer layer that gives the finished sausage a smoke flavor. (Para. 13, 26) The casing may be biaxially oriented and shrinkable. (Para. 14) The liquid smoke emulsion that is coated on the inside of the tubular casing is recited to comprise liquid smoke, browning agents and optionally water. (Para. 16-20) The mixture is recited to be applied to the interior surface of the tubular casing using the art-recognized bubble technique. (Para. 30) Useful polyamides for the layers of the invention are recited to be nylon 6 and partially aromatic copolyamide. (Para. 41)

10. Krallman is silent regarding the water vapor permeability of the polyamide layers, and the thickness of the polyamide films.

11. Stenger et al. teaches a polyamide single layer sausage casings composed of nylon 6 having a thickness of 39-41 μm and a water vapor permeability of 20 g/m^2/day. (Table 1) Stenger also recites that sausage casings with too high of a water vapor

permeability lead to undesirable weight losses and drying of the sausage. (Col. 1, lines 60-64)

12. Krallman and Stenger both teach polyamide sausage casings comprising Nylon 6. As evidenced by Stenger, the polyamide sausage casing of Krallman would be expected to exhibit a water vapor permeability of 20 g/m^2/day and likely less since the casing of Krallman would be comprised of two layers of polyamide.

13. The casing recited by Krallman would inherently have a water vapor permeability of 20 g/m^2/day and likely less as evidenced by Stenger. Although Krallman recites that the composition impregnating the polyamide sausage casing of the invention should include a browning agent, it would have been obvious to one having ordinary skill in the art at the time the invention was made to deleted the browning agent from the solution in order to lower costs by requiring less materials and to provide a sausage that would be more desirable to an environmentally conscious consumer who prefers food containing fewer synthetic materials. Additionally, since both Krallman and Stenger are directed towards sausage casings it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized polyamide films of the thickness recited by Stenger (about 40 μm) to produce the sausage casing recited by Krallman because these thickness were known in the art to be useful.

14. Regarding the values of surface tension recited in claims 1 and 2: The limitations set forth in claims 1 and 2 regarding surface tension as best understood by the examiner are meant to convey that the sausage casing claimed has desirable wetting properties for the liquid smoke composition being applied. It is presumed that since the

invention recited by Krallman is impregnated with liquid smoke and comprised of the same polymer recited by applicant that it would also display surface tension characteristics as can be best understood from claims 1 and 2.

15. Regarding claims 5: It is well known in the sausage casing art to produce seamless polyamide casings. The liquid smoke material recited by Krallman is applied to the sausage casing in tubular form, therefore it would have been obvious to one of ordinary skill in the art to have utilized either a seamed or seamless polyamide casing for the invention of Krallman. Production of the invention of Krallman utilizing a seamless polyamide casing would have produced the invention as claimed in claim 5.

16. Regarding claims 6 and 7: Krallman recites that the sausage casing of the invention can be biaxially oriented and is shrinkable. It is well known in the sausage are to heat set shrinkable films and to minimize the residual shrinkage thereof. The optimization of the invention of Krallman according to these well known properties would have produced the invention as claimed in claims 6 and 7.

17. Regarding claim 9: Krallman recites a multilayer polyamide casing where as Stenger recites a single layer polyamide sausage casing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have produced the invention of Krallman utilizing only the interior liquid smoke impregnated polyamide layer recited by Krallman since the utility of a single layer casing is taught by Stenger. Production of the invention of Krallman using only a single polyamide layer with a thickness as recited by Stenger would have minimized production costs by requiring less material and would have greatly simplified the production process by

rendering unnecessary the additional steps required to make a multilayer film. Production of the invention of Krallman using an approximately 40 µm thick liquid smoke impregnated polyamide film would have produced the sausage casing as claimed in claim 9.

18. Regarding claims 11 and 12: Krallman and Stenger clearly recite using the polyamide casings recited for packaging sausage. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have packaged any sausage within the casing produced by the combination of Krallman with the teachings of Stenger such as those claimed in claim 12.

19. The biaxially stretched and shrinkable polyamide multilayer sausage casing invention of Krallman produced by deletion of the browning agent recited would have produced the sausage casing as recited in claims 1, 2, 4- 7 and 9-12.

20. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krallman et al. U.S. Patent Application Publication No. 2003/0059502 (hereafter referred to as Krallman) and Stenger et al. U.S. Patent No. 5,399,427 (hereafter referred to as Stenger) and Erk et al. U.S. Patent No. 4,897,295 (hereafter referred to as Erk).

21. Krallman and Stenger teach what has been recited above but are silent regarding the swelling value of the polyamide inner layer of the casing.

22. Erk teaches polyamide sausage casings containing at least one polyamide which can absorb at least 5% of their own weight in water prior to saturation. (Col. 3, lines 5-

10) A sausage casing that is treated with water prior to filling avoids the problems of the need for additional lubricating agent and provides a casing that can be filled to a constant diameter and that can be tied off and clipped without error and without any loss and so that the filled casings display no visible tightening folds. (Col. 2, line 65-Col. 3, line 2) It is particularly preferred that the casing consists of at least one of the polyamides 6, 6.6 or a mixture of PA-6 and PA 6.6. (Col. 4, lines 46-50) The casings produced are recited to have thicknesses between 25 to 100 µm. (Col. 5, lines 19-22)

23. As evidenced by Erk, casings comprising Nylon 6 layers will have a swelling value of greater than 5 %. As such, the casing produced by the combination of Krallman and Stenger would have had a swelling value of greater than 5% for the nylon 6 interior layer of the casing as recited in claim 3.

24. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krallman et al. U.S. Patent Application Publication No. 2003/0059502 (hereafter referred to as Krallman) and Stenger U.S. Patent No. 5,399,427 (hereafter referred to as Stenger) and Ramesh et al. U.S. Patent No. 6,221,410 (hereafter referred to as Ramesh).

25. Krallman and Stenger teach what has been recited above but are silent regarding corona treatment of the interior of the casing.

26. Ramesh teaches that it is known that a polar surface is needed for adhesion of a film to a meat product. Adhesion of the film to the meat is frequently needed in order to prevent "purge", i.e., "cook-out", which can occur during the cooking of the meat

packaged in the film if the film does adhere to the meat during cook-in. A polar film surface can be provided by using: (a) polar resin in the film layer in contact with the meat, and/or (b) surface modification, such as corona treatment, of the film surface in contact with the meat. Typically, polar polymers used for meat adhesion include: ethylene/unsaturated acid copolymer, anhydride-containing polyolefin, and polyamide. (Col. 2, lines 13-24)

27. Both Krallman and Stenger and Ramesh are directed towards sausage casings. Ramesh evidences that it is well known in the sausage casing art that the interior of sausage casing needs to have a high adhesion to the meat encased. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have corona treated the interior surface of the polyamide sausage casing produced by the combination of Krallman with Stenger in order to produce a casing with improved meat adhesion properties in addition to the adhesion provided by the use of a polar polymer. Corona treatment of the invention recited by Krallman produced with the deletion of the browning agent would have produced the invention as claimed in claim 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHELE JACOBSON whose telephone number is (571)272-8905. The examiner can normally be reached on Monday-Thursday 8:30 AM-7 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michele L. Jacobson
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